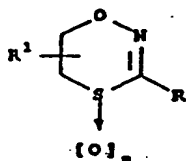


CLAIMS

1. A preservative composition comprising, in synergistic proportions, an oxathiazine compound plus one or more of a quaternary ammonium compound and a triazole compound.

2. A composition as claimed in claim 1 which comprises an oxathiazine compound, a quaternary ammonium compound and a triazole compound.

3. A composition as claimed in claim 1 or claim 2 wherein the oxathiazine compound is a compound of formula (I)



(I)

wherein n is 0, 1 or 2; R¹ is hydrogen, C₁-C₄ linear or branched alkyl, or benzyl; and

R is:

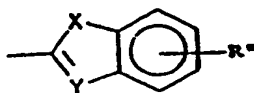
(a) phenyl; naphthyl; phenyl substituted with 1 to 3 of the following substituents:  
 hydroxyl, halo, C₁-C₁₂ alkyl, C₅-C₆ cycloalkyl, trihalomethyl, phenyl, C₁-C₅ alkoxy, C₁-C₅ alkylthio, tetrahydropyranyloxy, phenoxy, (C₁-C₄ alkyl)carbonyl, phenylcarbonyl, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, carboxy or its alkali metal salt, (C₁-C₄ alkoxy)carbonyl, (C₁-C₄ alkyl)aminocarbonyl, phenylaminocarbonyl, tolylaminocarbonyl, morpholinocarbonyl, amino, nitro, cyano, dioxolanyl, or (C₁-C₄ alkoxy)iminomethyl;  
 pyridinyl; thienyl, preferably when n is not 2; furanyl; or thienyl or furanyl substituted with 1 to 3 of the

following groups:

alkyl, alkoxy, alkylthio, alkoxycarbonyl, halogen,  
trihalomethyl, cyano, acetyl, benzoyl, nitro,  
formyl, alkoxyaminomethyl, phenyl, or  
phenylaminocarbonyl, wherein the alkyl or alkoxy  
moiety is C<sub>1</sub>-C<sub>4</sub>, linear or branched;

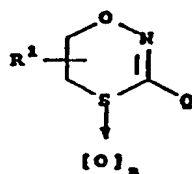
or

(b)



wherein X is oxygen or sulfur; Y is nitrogen, -CH-, or  
-C(C<sub>1</sub>-C<sub>4</sub> alkoxy)-; and R'' is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl.

4. A composition as claimed in claim 3 wherein  
the oxathiazine compound is a compound of formula (II)



(II)

wherein n is 0, 1 or 2, R<sup>1</sup> is hydrogen, C<sub>1</sub>-C<sub>4</sub> linear or  
branched alkyl, or benzyl; and  
Q is:

(a)



wherein R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are, individually, hydrogen, alkyl,  
alkoxy, alkylthio, alkoxycarbonyl, halogen,  
trihalomethyl, cyano, acetyl, formyl, benzoyl, nitro,  
alkoxyaminomethyl, phenyl, or phenylaminocarbonyl,

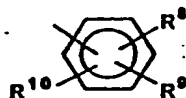
wherein the alkyl or alkoxy moieties are all C<sub>1</sub>-C<sub>4</sub>, linear or branched, with the proviso that at least one of R<sup>2</sup>, R<sup>3</sup> or R<sup>4</sup> must be other than hydrogen;

(b)



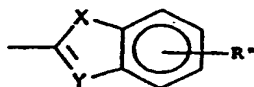
wherein R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are, individually, hydrogen, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, halogen, trihalomethyl, cyano, acetyl, formyl, benzoyl, nitro, phenyl, or phenylaminocarbonyl, with the proviso that at least one of R<sup>5</sup>, R<sup>6</sup> or R<sup>7</sup> must be other than hydrogen;

(c)



wherein R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup> are, individually, hydroxyl, halo, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>5</sub>-C<sub>6</sub> cycloalkyl, trihalomethyl, phenyl, C<sub>1</sub>-C<sub>5</sub> alkoxy, C<sub>1</sub>-C<sub>5</sub> alkylthio, tetrahydropyranyloxy, phenoxy, (C<sub>1</sub>-C<sub>4</sub> alkyl)carbonyl, phenylcarbonyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, carboxy or its alkali metal salt, (C<sub>1</sub>-C<sub>4</sub> alkoxy)carbonyl, (C<sub>1</sub>-C<sub>4</sub> alkyl)aminocarbonyl, phenylaminocarbonyl, tolylaminocarbonyl, morpholinocarbonyl, amino, nitro, cyano, dioxolanyl, or (C<sub>1</sub>-C<sub>4</sub> alkoxy)iminomethyl; or

(d)

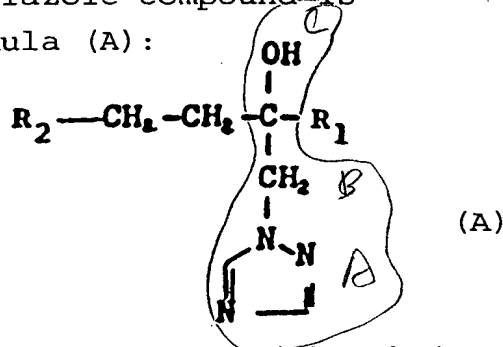


wherein X is oxygen or sulfur; Y is nitrogen, -CH-, or -C(C<sub>1</sub>-C<sub>4</sub> alkoxy)-; and R'' is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl.

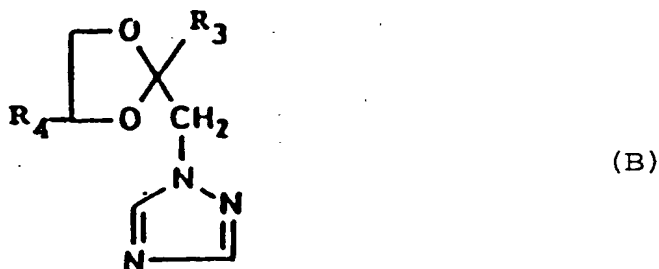
5. A composition as claimed in claim 4 wherein the oxathiazine compound is selected from 3-

(benzo[b]thien-2-yl)-5,6-dihydro-1,4,2-oxathiazine 4-oxide and 5,6-dihydro-3-(2-thienyl)-1,4,2-oxathiazine, 4-oxide.

6. A composition as claimed in any one of the preceding claims wherein the triazole compound is selected from compounds of formula (A):



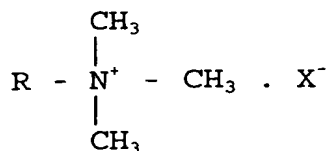
wherein  $\text{R}_1$  represents a branched or straight chain  $\text{C}_{1-5}$  alkyl group and  $\text{R}_2$  represents a phenyl group optionally substituted by one or more substituents selected from halogen atoms or  $\text{C}_{1-3}$  alkyl,  $\text{C}_{1-3}$  alkoxy, phenyl or nitro groups and compounds of formula (B):



wherein  $\text{R}_3$  is as defined for  $\text{R}_2$  above and  $\text{R}_4$  represents a hydrogen atom or a branched or straight chain  $\text{C}_{1-5}$  alkyl group.

7. A composition as claimed in claim 6 wherein the triazole compound is selected from the group comprising tebuconazole, propiconazole, azaconazole, hexaconazole, difenaconazole, cyproconazole, bromuconazole, epoxiconazole, metconazole, triticonazole, fenbuconazole, flusilazole, tetraconazole and penconazole.

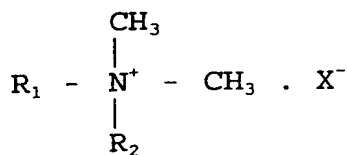
8. A composition as claimed in any one of the preceding claims wherein the quaternary ammonium compound is selected from compounds of formula (III):



(III)

wherein R is an alkyl group having between 6 and 18 carbon atoms and  $\text{X}^-$  is an anion which allows ready water solubility of the quaternary ammonium salt,

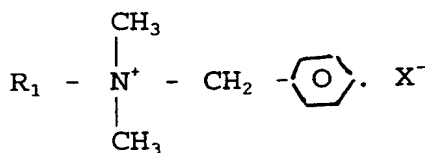
compounds of formula (IV):



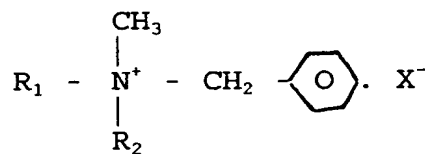
(IV)

wherein  $\text{R}_1$  and  $\text{R}_2$  are alkyl groups which may be the same or different and which contain between 6 and 18 carbon atoms, and  $\text{X}^-$  is an anion as described above,

compounds of formulae (V) or (VI):



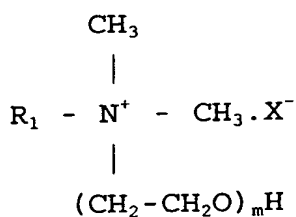
(V)



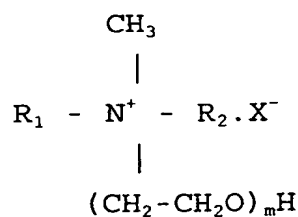
(VI)

wherein  $\text{R}_1$  and  $\text{R}_2$  are alkyl groups which can be the same or different and which contain between 6 and 18 carbon atoms and  $\text{X}^-$  is an anion as described above,

compounds of formulae (VII) or (VIII):



(VII)



(VIII)

wherein  $\text{R}_1$  and  $\text{R}_2$  are alkyl groups which may be the same or different and which contain between 6 and 18 carbon atoms and wherein  $m$  is a number between 1 and 20.

9. A method of treating a substrate of wood or other material which comprises applying to the substrate a composition as claimed in any one of the preceding claims.

10. A method as claimed in claim 9 wherein the substrate is affected by or at risk of being affected by soft rot.

11. A method as claimed in claim 9 or claim 10 wherein the substrate is affected by or at risk of being affected by *Ascomycotina* or *Deuteromycotina*.

12. A method of preserving wood or other material which comprises applying to the wood or other material a composition as claimed in any one of claims 1 to 8.

13. Use of a quaternary ammonium compound or a triazole to enhance the activity of an oxathiazine against *Ascomycotina* and *Deuteromycotina*.